

## AMENDMENTS TO THE CLAIMS

- Claim 1 (Currently amended) A method of enhancing adhesion strength of a boro-silicate glass (BSG) film to a silicon nitride film, comprising:
- 5       providing a semiconductor substrate having a silicon nitride film formed thereon;  
      exposing the silicon nitride film to an oxygen-containing plasma; and  
      depositing a BSG film on the silicon nitride film[.]; wherein the BSG film has a boron concentration of between 5% and 8% in weight
- 10    Claim 2 (Currently amended) The method of claim 1 wherein the silicon nitride film is formed by using ~~low-pressure~~—chemical vapor deposition (~~LPCVD~~), plasma-enhanced CVD (PECVD), or ~~high-density-plasma CVD (HDPCVD)~~.
- Claim 3 (Original) The method of claim 1 wherein the silicon nitride film has a
- 15    thickness of about 1000 to 2000 angstroms.
- Claim 4 (Cancelled)
- Claim 5 (Original) The method of claim 4 wherein the BSG film has a boron
- 20    concentration of about 5.53% in weight.
- Claim 6 (Original) The method of claim 1 wherein the thickness of the BSG film is between 7,500 to 15,000 angstroms.
- 25    Claim 7 (Cancelled)
- Claim 8 (Original) The method of claim 1 wherein the oxygen-containing plasma consists of ozone and oxygen having an ozone/oxygen concentration of about 2% to 50% in weight, and wherein the oxygen-containing plasma is created under a high
- 30    frequency radio frequency (HFRF) of about 1 to 9 W/cm<sup>2</sup>.
- Claim 9 (Original) The method of claim 1 wherein the silicon nitride film is exposed

to the oxygen-containing plasma for about 5 seconds to 20 minutes.

Claim 10 (Currently amended) A method of manufacturing a deep-trench on a substrate, comprising:

- 5       providing a substrate;  
          forming an oxide layer on the substrate;  
          depositing a silicon nitride film over the oxide layer;  
          exposing the silicon nitride film to an oxygen-containing plasma for a  
predetermined time period;
- 10       depositing a BSG film over the silicon nitride film, wherein the BSG film has a boron concentration of between 5% and 8% in weight; and  
          dry-etching the substrate to form a deep trench by using the BSG film as a hard an etching mask.

- 15    Claim 11 (Currently amended) The method of claim 10 wherein the silicon nitride film is formed by using low-pressure—chemical vapor deposition (LPCVD), plasma-enhanced CVD (PECVD), or high-density-plasma CVD (HDPCVD).

- 20    Claim 12 (Original) The method of claim 10 wherein the silicon nitride film has a thickness of about 1000 to 2000 angstroms

Claim 13 (Cancelled)

- 25    Claim 14 (Original) The method of claim 10 wherein the BSG film has a boron concentration of about 5.53% in weight.

Claim 15 (Original) The method of claim 10 wherein the thickness of the BSG film is between 7,500 to 15,000 angstroms.

- 30    Claim 16 (Original) The method of claim 10 wherein the oxygen-containing plasma consists of ozone and oxygen having an ozone/oxygen concentration of about 2% to 50% in weight, and wherein the oxygen-containing plasma is created under a high

frequency radio frequency (HFRF) of about 1 to 9 W/cm<sup>2</sup>.

Claim 17 (Cancelled)

- 5 Claim 18 (Original) The method of claim 10 wherein the predetermined time period is between 5 seconds and 20 minutes.